



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,643	07/24/2000	Hermann Link	5509	7739

7590 05/06/2004

Patrick J O'Shea  
Samuels Gauthier & Stevens  
Suite 3300  
225 Franklin Street  
Boston, MA 02110

EXAMINER

MILLER, BRANDON J

ART UNIT	PAPER NUMBER
----------	--------------

2683

18

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/509,643

**Applicant(s)**

LINK ET AL.

**Examiner**

Brandon J Miller

**Art Unit**

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 2/20/04.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-16, 18-21 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-16, 18-21 and 23-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response*

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-11, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takayama in view of Baker.

Regarding claim 10 Takayama teaches a method for selecting one of several receivers of a diversity receiving system and selecting a receiver whose control signal has the lowest level (see col. 1, lines 16-20, col. 4, lines 61-65, and col. 6, lines 20-22). Takayama also teaches using a gain controller for controlling or adjusting a difference between characteristics of a second receiving system and a first receiving system (see col. 3, lines 40-47). Takayama does not teach comparing the level of control signals of an automatic gain control of the receivers. Baker teaches comparing the level of control signals of an automatic gain control of diversity receivers (see 1<sup>st</sup> paragraph, lines 10-15, 23-34, & 42-45, 2<sup>nd</sup> paragraph, lines 46-58 & 73-81, and 3<sup>rd</sup> paragraph, lines 47-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include comparing the level of control signals of an automatic gain control of the receivers because this would allow for receiver selection that would improve the broadcast state of received signals.

Art Unit: 2683

Regarding claim 11 Takayama teaches a switchover from one receiver to another receiver (see col. 2, lines 15-21) and selecting a signal level that is below a signal level of another signal by a specifiable minimum (see col. 6, lines 17-22 and FIG. 3(c)).

Regarding claim 20 Takayama teaches a plurality of radio receivers that provide uniquely associated receiver output signals indicative of a received radio signal (see col. 1, lines 6-8 & 16-20). Takayama teaches providing a diversity receiver output signal indicative of a receiver output signal associated with a receiver and a selection mechanism for selecting a radio receiver of a diversity receiving system that has applied the smallest gain correction associated with its receiver output (see col. 4, lines 61-65, and col. 6, lines 20-22). Takayama teaches using a gain controller for controlling or adjusting a difference between characteristics of a second receiving system and a first receiving system (see col. 3, lines 40-47). Takayama does not teach a uniquely associated receiver control signal indicative of the amount of gain applied by an associated radio receiver to create a uniquely associated receiver output signal or selecting a receiver based upon a control signal indicative of automatic gain correction applied. Baker teaches a receiver control signal indicative of the amount of gain applied by an associated radio receiver to create an associated receiver output signal (see 1<sup>st</sup> paragraph, lines 10-15, 23-34, & 42-45, 2<sup>nd</sup> paragraph, lines 46-58 & 73-81, and 3<sup>rd</sup> paragraph, lines 47-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include a uniquely associated receiver control signal indicative of the amount of gain applied by an associated radio receiver to create a uniquely associated receiver output signal because this would allow for receiver selection that would improve the broadcast state of received signals.

Art Unit: 2683

Claims 12-16, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takayama in view of Baker and Kishigami.

Regarding claim 12 Takayama and Baker teach a device as recited in claim 10 except for a mobile diversity receiving system. Kishigami teaches a mobile diversity receiving system (see col. 1, lines 9-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include a mobile diversity receiving system because this would allow for improved reception of signals in mobile devices.

Regarding claim 13 Kishigami teaches a video receiver (see col. 1, lines 22-24).

Regarding claim 14 Takayama teaches selecting a signal that has the lowest level (see col. 6, lines 17-22). Takayama also teaches a switchover from a selection of a first of a receivers to a second of a receivers (see col. 5, lines 28-31). Kishigami teaches transmission of data blocks (see col. 9, lines 45-48).

Regarding claim 15 Kishigami teaches line synchronization (see col. 2, lines 7-12).

Regarding claim 16 Takayama teaches an output signal selected from a first and second radio receiver (see col. 1, lines 6-8 & 21-25). Takayama teaches a comparator that receives a first signal from a radio receiver and a second signal from another radio receiver and determines which of the signals to select (see col. 5, lines 21-27). Takayama teaches a signal that has a low level and provides a selection signal indicative of the selected signal (see col. 6, lines 8-10 & 17-22). Takayama teaches a switching element responsive to a selection signal (see col. 7, lines 34-38). Takayama teaches first and second signals (see col. 3, lines 67-68 and col. 4, lines 4-6). Takayama teaches using a gain controller for controlling or adjusting a difference between characteristics of a second receiving system and a first receiving system (see col. 3, lines 40-47).

Art Unit: 2683

Takayama does not teach a first data signal and a second data signal, a state of a selection signal selecting as the output signal either a first data signal, a second data signal or comparing the level of control signals of an automatic gain control of the receivers, or first and second control signals that are indicative of an amount of automatic gain control correction applied by receivers, respectively to their received signals to provide first and second data signals. Baker teaches comparing the level of control signals of an automatic gain control of diversity receivers (see 1<sup>st</sup> paragraph, lines 10-15, 23-34, & 42-45, 2<sup>nd</sup> paragraph, lines 46-58 & 73-81, and 3<sup>rd</sup> paragraph, lines 47-55). Kishigami teaches generating and supplying a data signal (see col. 9, lines 45-48). Kishigami teaches automatic gain control (see col. 2, lines 33-37) and first and second data signals (see col. 5, lines 21-22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include a first data signal and a second data signal, a state of a selection signal selecting as the output signal either a first data signal, a second data signal or comparing the level of control signals of an automatic gain control of the receivers, and first and second control signals that are indicative of an amount of automatic gain control correction applied by receivers, respectively to their received signals to provide first and second data signals because this would allow for receiver selection that would improve selection of multiple data signals.

Regarding claim 18 Kishigami teaches first and second data signals (see col. 5, lines 21-22) and audio data (see col. 7, lines 27-29).

Regarding claim 19 Kishigami teaches first and second data signals (see col. 5, lines 21-22) and video data (see col. 1, lines 22-24).

Art Unit: 2683

Claims 21, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takayama in view of Baker, Kishigami, and Suenaga.

Regarding claim 21 Takayama and Baker teach a device as recited in claim 20 except for a block synchronizer that delays switching of a receiver output signal from selection of a first radio receiver to a second radio receiver, until a first radio receiver has completed transmitting a predefined block of data. Takayama teaches selecting a first radio receiver and a second radio receiver (see col. 3, lines 13-16). Kishigami teaches transmitting a predefined block of data (see col. 9, lines 46-47). Suenaga teaches a block synchronizer (see col. 4, lines 48-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include a block synchronizer that delays switching of a receiver output signal from selection of a first radio receiver to a second radio receiver, until a first radio receiver has completed transmitting a predefined block of data because this would allow for receiver selection that would improve selection of signals while keeping data synchronized.

Regarding claim 23 Takayama teaches a comparator that compares radio receiver signals (see col. 5, lines 21-27). Takayama teaches selecting a level of a signal that has the smallest gain correction to its associated receiver output signal and providing a selection signal (see col. 6, lines 17-22 and FIG. 3(c)). Takayama teaches a switching element responsive to a selection signal and receiver output based upon a state of selection signal (see col. 7, lines 34-38).

Regarding claim 24 Kishigami teaches a plurality of radio receivers comprising a plurality of television receivers (see col. 1, lines 13-17).

Regarding claim 25 Suenaga teaches audio receivers (see abstract and col. 3, lines 48-56).

***Response to Arguments***

Art Unit: 2683

Applicant's arguments filed 2/20/04 have been fully considered but they are not persuasive. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Takayama mentions only that using the gain controller is not preferred, this particular language does exclude the use of automatic gain control from his invention. The language not preferred is not limiting to exclusion, Takayama even mentions that it would be possible to alter different functions of his invention (see col. 10, lines 15-18). Since both Takayama and Baker relate to diversity receiving solutions there is suggestion to combine.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



Art Unit: 2683

*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Andoh U.S. Patent No. 5,241,701 discloses an antenna selecting diversity receiving apparatus.

Lindenmeier U.S. Patent No. 6,169,888 discloses a receiving antenna scanning diversity system with controllable switching.

Cvetkovic U.S. Patent No. 6,141,536 discloses a diversity radio system with RDS.

Igarashi U.S. Patent No. 5,940,143 discloses a high-definition television signal receiving apparatus and gain control circuit thereof.

Takai U.S. Patent No. 6,032,031 discloses a receiver for suppressing intermodulation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J Miller whose telephone number is 703-305-4222. The examiner can normally be reached on Mon.-Fri..


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2683

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

\*\*\*

April 30, 2004

  
WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600